



## Meinberg Radio Clocks

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## LIU: Line Interface Unit

Generation of reference clocks for synchronisation tasks

The module LIU (**L**ine **I**nterface **U**nit) generates different reference clock pulses which are derived from the GPS-locked master oscillator of a preconnected GPS clock. The output signals are available with high accuracy and stability therefore.

### Key Features

- Synchronisation of telecom networks
- Synchronisation of transmitters/base stations (GSM/CDMA/UMTS/DAB/DVB)
- Synchronisation/calibration of laboratory equipment
- Clock and Framed telecom outputs
- Reference frequency delivered by preconnected GPS-receiver GPS170/GPS170SV
- Standard frequency outputs

## Characteristics

<b>Control Elements</b>	E1- or T1-generator, settable by DIL-switch or control input
<b>Accuracy of Frequency Outputs</b>	The accuracy of the generated output signals depends on the master oscillator of the preconnected GPS-satellite controlled clock. The following options are available: Option Short term stability with GPS-synchronization OCXO MQ $\pm 2 \cdot 10^{-10}$ OCXO HQ $\pm 5 \cdot 10^{-12}$ Rubidium $\pm 2 \cdot 10^{-12}$
<b>Interface</b>	<b>Clock Outputs:</b> 4 x 2.048 MHz (E1-mode) or 1.544 MHz (T1-mode), G.703, 75 Ohm, unbalanced <b>and</b> 4 x 2.048 MHz (E1-mode) or 1.544 MHz (T1-mode), G.703, 120 Ohm, balanced <b>Framed Outputs:</b> 4 x 2.048 Mbps (E1-mode) or 1.544 Mbps (T1-mode), 75 Ohm, unbalanced <b>or</b> 4 x 2.048 Mbps (E1-mode) or 1.544 Mbps (T1-mode), 120 Ohm, balanced Output pulses according to G.703 (E1-mode) or T1.403 (T1-mode) (T1-Mode) Line Coding HDB3 (E1-mode) or B8ZS (T1-mode)
<b>Dimensions of the front panel</b>	Width of the front panel depends on the number of front side outputs 4HP/3U - 16HP/3U (20 - 80mm x 128mm)
<b>Electrical Connectors</b>	64 pin rear VG edge connector DIN 41612 Female BNC-connectors for unbalanced outputs BNC-Twinax-connectors for balanced outputs
<b>Operating Voltage</b>	+5 V DC
<b>Current Draw</b>	approx. 470mA
<b>Board type</b>	Eurocard
<b>Board Dimensions</b>	160 mm x 100 mm, 1,5 mm Epoxy
<b>Supported Temperature</b>	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
<b>Supported Humidity</b>	Max. 85 % (non-condensing) at 40 °C
<b>Warranty</b>	Three-year warranty
<b>RoHS Status of Product</b>	This product is fully RoHS-compliant.
<b>WEEE Status of Product</b>	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.

### Manual

The English manual is available as a PDF file: [[1](#)Download (PDF)]

**Links:**

[1] <https://www.meinbergglobal.com/download/docs/manuals/english/liu.pdf>